

Claims

- [c1] 1. A gearshift unit for electronic transmission control in motor vehicles, said gearshift unit comprising:
a gearshift lever housing and a gearshift lever moveable in relation to the gearshift lever housing, the gearshift lever being rotatable about a main pivot axis of the gearshift lever within an active position range for active gearshift positions and a neutral position;
the gearshift unit comprising a locking unit configured to assume a first, locked position when the gearshift lever is prevented from passing the neutral position and a second opened position when the gearshift lever is allowed to pass the neutral position, and the active gearshift positions have no locking units so that the neutral position is freely accessible from the active gearshift positions solely by rotating the gearshift lever about a main pivot axis without deactivating locking elements.
- [c2] 2. The gearshift unit as recited in claim 1, wherein the gearshift lever, by rotation about the main pivot axis, is tiltable between the active position range and a tilted position in which the gearshift lever (5) is aligned in or

below the seat plane of the driver's seat (2)

- [c3] 3. The gearshift unit as recited in claim 2, wherein the gearshift lever, in a tilted position, does not have locking units, the neutral position being freely accessible from the tilted position solely by rotating the gearshift lever about the main pivot axis without deactivating locking elements.
- [c4] 4. The gearshift unit as recited in claim 3, wherein the locking unit in the first locked position is designed to retain the gearshift lever in the neutral position and in the second open position to allow the gearshift lever to leave the neutral position.
- [c5] 5. The gearshift unit as recited in claim 1, wherein the gearshift lever further comprises a rod provided with a pivot pin arranged at a distance from the main pivot axis, the pivot pin being designed, through manipulation of the gearshift lever, to run either in a first, active slot corresponding to the active position range, or in a second, tilting slot for assuming a tilted position.
- [c6] 6. The gearshift unit as recited in claim 5, wherein the active slot is connected to the tilting slot solely by way of an intermediate neutral position slot, the position of which corresponds to the neutral position of the

gearshift lever.

- [c7] 7. The gearshift unit as recited in claim 6, wherein the locking unit is configured to retain the pivot pin in the neutral position slot when the neutral position is assumed either from the active slot or from the tilting slot through spring-loading of the pivot pin.
- [c8] 8. The gearshift unit as recited in claim 7, wherein the spring-loading is provided by two spring elements opposed to one another.
- [c9] 9. The gearshift unit as recited in claim 8, wherein the pivot pin is axially displaceable along an axis of symmetry of the rod.
- [c10] 10. The gearshift unit as recited in claim 5, wherein the active slot and the tilting slot run essentially radially around the main pivot axis of the gearshift lever.
- [c11] 11. The gearshift unit as recited in claim 5, wherein the gearshift lever is provided with operating elements for axial displacement of the pivot pin along the axis of symmetry of the rod.
- [c12] 12. The gearshift unit as recited in claim 11, wherein the operating element comprises a first element for introducing the pivot pin into the active slot so that the

gearshift lever can be moved between the active gearshift positions, and a second element for introducing the pivot pin into the tilting slot, thereby allowing the gearshift lever to be tilted.

- [c13] 13. The gearshift unit as recited in claim 12, wherein the first element comprises a ramp sloping at an inclined angle towards the axis of symmetry, the ramp being rigidly connected to the pivot pin, and a button element, interacting with the ramp and arranged so that it is displaceable essentially at right angles to the axis of symmetry, the ramp and hence the pivot pin being displaced along the axis of symmetry of the gearshift lever when a driver presses the button element against the ramp.
- [c14] 14. The gearshift unit as recited in claim 6, wherein a sensor is designed exclusively to detect radial positions of the pivot pin so that position signals cannot be emitted when the pivot pin is in the tilting slot.
- [c15] 15. The gearshift unit as recited in claim 1, wherein a logic unit situated in the vehicle is designed to activate the vehicle parking brake, provided that both of the following conditions are fulfilled: (a) the logic unit receives a first signal which indicates that the gearshift lever is in its tilted position; and (b) the logic unit receives a second signal which indicates that the vehicle is stationary.

[c16] 16. The gearshift unit as recited in claim 1, wherein the gearshift unit is firmly fixed to a sprung part of the driver's seat.